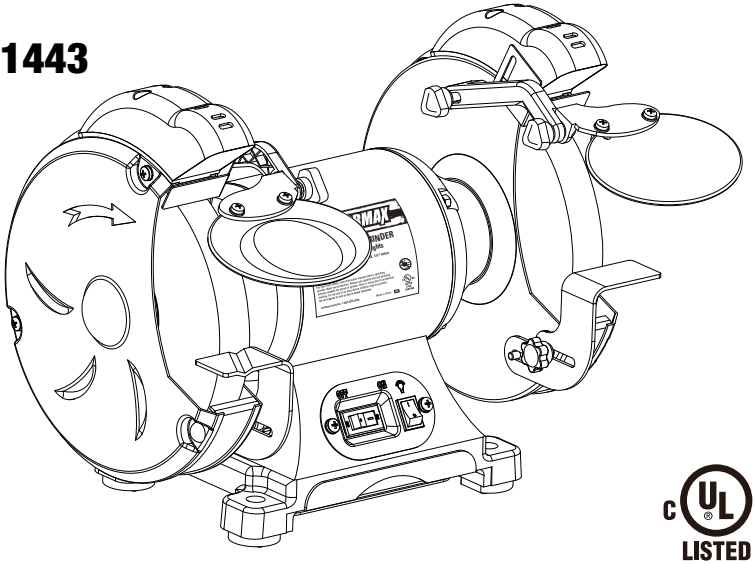
OPERATING MANUAL

Bench Grinder

241-1443



c UL us LISTED

IMPORTANT:

⚠ Read through this operating manual carefully before using this tool. Pay close attention to all **Safety Instructions, Warnings,** and **Caution** sections**.** Use this tool properly, and only for its intended use.

⚠ Safety symbols in this Manual are used to call attention to possible dangers. The safety symbols and their explanations require the operator's full understanding. The safety warnings do not, by themselves, eliminate any danger, and they are not a substitute for proper accident-prevention measures.

⚠ This Safety Alert Symbol indicates caution, warning, or danger. Failure to obey a safety warning can result in serious injury to the operator or to others. To reduce the risk of injury, fire, or electric shock, always follow the safety precautions.

TABLE OF CONTENTS

Specifications……...……...Page 2
Rules for Safe Operation……..…….....Page 3
Description……..…….....Page 10
Assembly and adjustment… ……..…Page10
Operation……..…….....Page 12
Maintenance……..…….....Page 14
Warranty……..…….....Page 16

SPECIFICATIONS

Bench grinder Specifications:

Power:	120 V~ 60Hz,
Rating:	3 A
No load Speed:	3450 RPM
Wheel diameter:	8”
Wheel thickness:	1”
Arbor hole:	5/8”
Cord length:	6 Feet
Weight:	35lb. (15.9Kg)

Safety symbols for your tool

the label on your tool may include the following symbols.

V.....Volts

A.....Amps

Hz.....Hertz

W.....Watts

min.....Minutes

∽ .....Alternating Current

⎓ ..... Direct Current

n_0 ....No-load Speed

.../min.....Revolutions or Strokes per minute

⚠ .....Indicates danger, warning caution. It means attention! Your safety is involved.

.....Wet Conditions Alert,Do not expose to rain or use in damp locations.

RULES FOR SAFE OPERATION

GENERAL SAFETY RULES

⚠WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

- ✓ **KNOW YOUR POWER TOOL.** Read the operator's manual carefully. Learn the grinder's applications and limitations as well as the specific potential hazards related to this tool.
- ✓ **GUARD AGAINST ELECTRICAL SHOCK BY PREVENTING BODY CONTACT WITH GROUNDED SURFACE.** For example, pipes, radiators, ranges, refrigerator, enclosures.
- ✓ **KEEP GUARDS IN PLACE** and in working order.
- ✓ **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- ✓ **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- ✓ **DON'T USE IN DANGEROUS ENVIRONMENT**. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- ✓ **KEEP CHILDREN AND VISITORS AWAY**. All visitors should be kept safe distance from work area.
- ✓ **MAKE WORKSHOP KID PROOF** with padlocks master switches, or by removing starter keys.
- ✓ **DON'T FORCE TOOL** It will do the job better and safer at the rate for which it was designed.
- ✓ **USE RIGHT TOOL** Don't force tool or attachment to do a job for which it was not designed.
- ✓ **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good

condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

- ✓ **WEAR PROPER APPAREL** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- ✓ **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- ✓ **SECURE WORK**. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
- ✓ **DON'T OVERREACH**. Keep proper footing and balance at all times.
- ✓ **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- ✓ **DISCONNECT TOOLS.** When not in use, before servicing, or when changing attachments, grinding wheels, etc., all tools should be disconnected.
- ✓ **REDUCE THE RISK OF UNINTENTIONAL STARTING**. Be sure switch is off when plugging in any tool.
- ✓ **USE RECOMMENDED ACCESSORIES**. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- ✓ **NEVER STAND ON TOOL**. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- ✓ **CHECK DAMAGED PARTS**. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function-check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation, A guard or other part that is damaged should be properly repaired or replaced.
- ✓ **PROTECT YOUR LUNGS.** Wear a face or dust mask if the grinding operation is dusty.
- ✓ **PROTECT HEARING.** Wear hearing protection during extended periods of operation.
- ✓ **DO NOT ABUSE CORD.** Never yank cord to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.

- ✓ **USE OUTDOOR EXTENSION CORDS.** When tool is used outdoors, use only extension cords with approved ground connection that are intended for use outdoors and so marked.
- ✓ **WHEELS COASTING AFTER BEING TURNED OFF.**
- ✓ **NEVER USE IN AN EXPLOSIVE ATMOSPHERE.** Normal sparking of the motor could ignite fumes.
- ✓ **INSPECT TOOL CORDS PERIODICALLY.** If damaged, have the cord repaired by a qualified service technician at an authorized service facility. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Repair or replace a damaged or worn cord immediately. Stay constantly aware of cord location and keep it well away from the rotating grinding wheels.
- ✓ **DIRECTION OF FEED**. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
- ✓ **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF**. Don't leave tool until it comes to a complete stop.
- ✓ **INSPECT EXTENSION CORDS PERIODICALLY** and replace if damaged.
- ✓ **DO NOT USE TOOL IF SWITCH DOES NOT TURN IT ON AND OFF.** Have defective switches replaced by an authorized service center.
- ✓ **USE ONLY CORRECT WHEELS.** Do not use wheels with incorrect size holes. Never use wheel washers or wheel bolts that are defective or incorrect. The maximum wheel capacity of your grinder is 8in.
- ✓ **NEVER TOUCH WHEEL** or other moving parts during use.
- ✓ **NEVER START A TOOL WHEN ANY ROTATING COMPONENT IS IN CONTACT WITH THE WORKPIECE.**
- ✓ **DO NOT OPERATE A TOOL WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR ANY MEDICATION.**
- ✓ **WHEN SERVICING** use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.
- ✓ **USE ONLY RECOMMENDED ACCESSORIES** listed in this manual or addendums. Use of accessories that are not listed may cause the risk of personal injury. Instructions for safe use of accessories are included with the accessory.
- ✓ **DOUBLE CHECK ALL SETUPS.** Make sure wheel is tight and not making contact with workpiece before connecting to power supply.

SPECIFIC SAFETY RULES FOR BENCH GRINDER

- ✓ **NEVER** reach to pick up a workpiece, a piece of scrap, or anything else that is in or near the grinding path of the wheel.
- ✓ **AVOID AWKWARD OPERATIONS AND HAND POSITIONS** where a sudden slip could cause your hand to move into the wheel. Always make sure you have good balance.
- ✓ **NEVER** stand or have any part of your body in line with the path of the wheel.
- ✓ **DO NOT USE TOOL IF SWITCH DOES NOT TURN IT ON AND OFF.** Have defective switches replaced by an authorized service center.
- ✓ **DO NOT TURN MOTOR SWITCH ON AND OFF RAPIDLY.** This could cause the wheel to loosen and could create a hazard. Should this ever occur, stand clear and allow the wheel to come to a complete stop. Disconnect your grinder from the power supply and securely retighten the wheel nut.
- ✓ **USE ONLY FLANGES** furnished with this bench grinder.
- ✓ **IF ANY PART OF THIS GRINDER IS MISSING** or should break, bend, or fail in any way, or should any electrical component fail to perform properly, shut off the power switch, remove the machine plug from the power source and have damaged, missing, or failed parts replaced before resuming operation.
- ✓ **MAKE SURE THE GRINDER IS SECURELY MOUNTED** as described in the operating instructions before con¬necting the tool to a power supply.
- ✓ **DO NOT OVERTIGHTEN WHEEL NUT.** Excessive tightening can cause the wheel to crack during operation.
- ✓ **ALWAYS USE THE GRINDER'S WHEEL GUARDS AND SAFETY SHIELDS.**
- ✓ **INSPECT GRINDING WHEEL** for visible defects. Check the wheel for fissures and cracks, and test for normal operation prior to use. Replace cracked wheel immediately.
- ✓ **ADJUST** distance between wheel and work rest to maintain 1/16 in. or less separation as the diameter of the wheel decreases with use. The value of separation used in the marking is to be the separation recommended by the manufacturer but shall not be more than 1/8 in.
- ✓ **ALWAYS EASE THE WORKPIECE AGAINST ABRASIVE WHEEL** when starting to grind. A harsh impact can break the wheel. Use light pressure when starting to grind; too much pressure on a cold wheel can cause the wheel to crack.
- ✓ **RISK OF INJURY DUE TO ACCIDENTAL STARTING.** Do not use in an area where children may be present.
- ✓ **NEVER START THE GRINDER** when the wheel is in contact with the workpiece.

✓ **SECURE WORK**. Always hold workpiece firmly against the work rest.

✓ **DO NOT USE THE BENCH GRINDER** if the flange nut or clamp nut is missing or if the spindle shaft is bent.

✓ **FREQUENTLY** clean grinding dust from beneath grinder.

✓ **STAY ALERT AND EXERCISE CONTROL.** Watch what you are doing and use common sense. Do not operate tool when you are tired. Do not rush.

✓ **IF THE POWER SUPPLY CORD IS DAMAGED,** it must be replaced only by the manufacturer or by an authorized service center to avoid risk.

✓ **SAVE THESE INSTRUCTIONS.** Refer to them frequently and use to instruct other users. If you loan someone this tool, loan them these instructions also.

⚠**WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

EXTENSION CORDS

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug. When using a power tool at a considerable distance from the power source, use an extension cord heavy enough to carry the current that the tool will draw. An undersized extension cord will cause a drop in line voltage, resulting in a loss of power and causing the motor to overheat. Use the chart provided below to determine the minimum wire size required in an extension cord. Only round jacketed cords listed by Underwriter's Laboratories (UL) should be used.

**Ampere rating (on tool data plate)

	0-2.0	2.1-3.4	3.5-5.0	5.1-7.0	7.1-1 2.0	12.1-16.0
Cord Length	**Wire Size (A.W.G.)**					
25'	16	16	16	16	14	14
50'	16	16	16	14	14	12
100'	16	16	14	12	10	—

**Used on 12 gauge - 20 amp circuit.
NOTE: AWG = American Wire Gauge

When working with the tool outdoors, use an extension cord that is designed for outside use. This is indicated by the letters “WA” on the cord’s jacket.

Before using an extension cord, inspect it for loose or exposed wires and cut or worn insulation.

⚠WARNING: Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool. Failure to do so can result in serious personal injury.

⚠WARNING: Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord since touching the damaged area could cause electrical shock resulting in serious injury.

ELECTRICAL CONNECTION

This tool is powered by a precision built electric motor. It should be connected to a power supply that is 120 volts, 60 Hz, AC only (normal household current). Do not operate this tool on direct current (DC). A substantial voltage drop will cause a loss of power and the motor will overheat. If the grinder does not operate when plugged into an outlet, double check the power supply.

SPEED AND WIRING

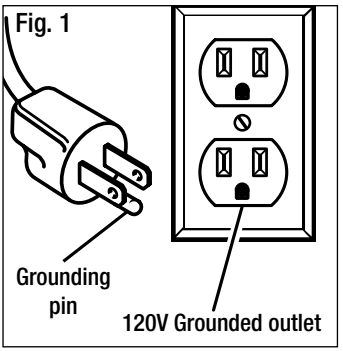
The no-load speed of this tool is approximately 3450 rpm. This speed is not constant and decreases under a load or with lower voltage. For voltage, the wiring in a shop is as important as the motor’s horsepower rating. A line intended only for lights cannot properly carry a power tool motor. Wire that is heavy enough for a short distance will be too light for a greater distance. A line that can support one power tool may not be able to support two or three tools.

GROUNDING INSTRUCTIONS

1. All grounded, cord-connected tools:

✓ In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Fig. 1



- ✓ Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- ✓ Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- ✓ Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.
- ✓ Repair or replace a damaged or worn cord immediately.

DESCRIPTION

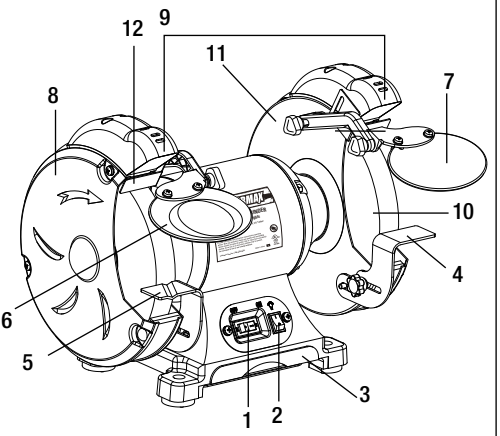
KNOW THE BENCH GRINDER (Fig. 2)

The machine is intended for sharpening tools such as chisels, planer blades, scissors, etc., and for removing rust or corrosion.

⚠WARNING: Do not allow familiarity with the grinder to cause carelessness. Remember that a careless fraction of a second is sufficient enough to inflict severe injury.

Fig. 2

1. On/Off switch
2. Worklight switch
3. Coolant tray
4. Right work rest
5. Left work rest (grooved)
6. Left safety shield (w/ magnifier)
7. Right safety shield
8. Left wheel guard
9. Worklight
10. Grinding wheel
11. Right wheel guard
12. Spark deflector

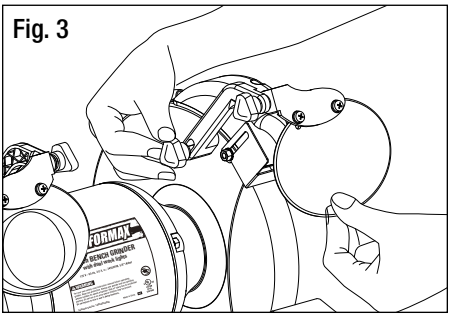


ASSEMBLY AND ADJUSTMENTS

⚠WARNING: Remove the bench grinder from the carton and examine it carefully. Do not dispose of carton or any packaging material until all parts are examined.

⚠WARNING: To avoid injury, ALWAYS turn the tool off and disconnect the grinder from the power outlet before installing or changing the grinding wheel.

Fig. 3



MOUNTING SAFETY SHIELD ASSEMBLY

1. Turn off and unplug the grinder

2. Fasten the safety shield assemblies to the safety shield brackets using the fastening knob and small washer.
3. Attach the safety shield assembly and bracket to the wheel guard using a washer, lock washer and rear shield bracket knob.

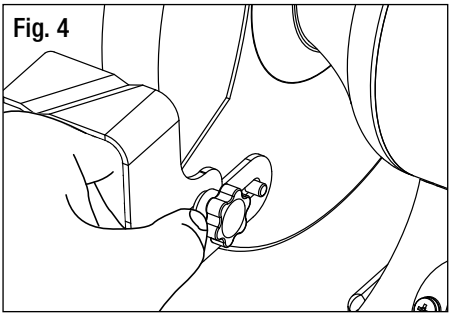
⚠WARNING: Always spin the wheel by hand before turning on the grinder to make sure the spark deflector doesn't hit the grinding wheel.

⚠WARNING: The use of attachments or accessories for other type of grinder might be hazardous and could cause serious personal injury.

MOUNTING WORK REST

1. Turn off and unplug the grinder
2. Remove the knob and washer from the carriage bolt on the lower portion of wheel guard.
3. Using the carriage bolt, washer and fastening knob, attach the work rest bracket to the inside of the wheel guard as shown.

Fig. 4



NOTE: The grooved work rest mounts on the left side.

NOTE: The work rest bracket's lower slot must be positioned over the pin on the guard.

4. With the remaining fastening knob, install the work rest to the bracket.

NOTE: Adjust the distance between the wheel and the work rest to maintain 1/16 in. or less separation as the diameter of the wheel decreases with use.

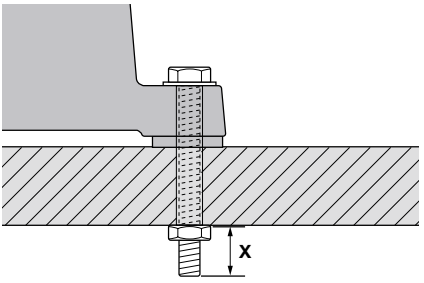
⚠WARNING: Always make sure your bench grinder is securely mounted to a workbench. Failure to do so could result in an accident possible serious personal injury.

MOUNTING GRINDER TO WORKBENCH (Fig.5)

If grinder is to be used in a permanent location, it should be fastened securely to a firm supporting surface, such as a workbench with bolts.

1. Turn off and unplug the grinder
2. Mark the position of the four mounting holes provided in the base of the machine on the workbench.

Fig. 5



3. Drill a hole at each of the marked positions.
4. Place the machine on the workbench and insert a bolt with a washer through the mounting holes in the base into each of the holes drilled in the workbench. Make sure the protruding length X (see figure) is at least 15 mm for each of the bolts used.
5. Place a nut on each of the bolts and securely tighten the nuts.

GRINDING OPERATION

⚠WARNING: Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

⚠WARNING: Always wear safety goggles or safety glasses with side shields when operating power tools. Failure to do so could result in objects being thrown into your eyes resulting in possible serious injury.

⚠WARNING: Do not use any attachments or accessories not recommended by the manufacturer of this tool. The use of attachments or accessories not recommended can result in serious personal injury.

BASIC OPERATION

To be efficient and work as designed, your tools should be kept sharp. Dull tools can cause accidents. Bench Grinders are ideal for sharpening tools such as chisels, planer blades, scissors, etc., and for removing rust or corrosion.

⚠WARNING: Never sharpen or grind anything made of aluminum, brass, or copper.

Grinders remove material rapidly, so pressure is the key to efficient grinding.

The proper way to sharpen a tool and avoid overheating is:

1. Keep the object in constant motion, moving it at an even pace.
2. Never force a tool against the grinding wheel.
3. Keep the tool cool by using either the coolant tray or a pan of water.
4. The grinding wheel should rotate “into” the object being sharpened.

NOTE: Excessive pressure may damage the tool, cause the motor to overheat, and prematurely wear down the grinding wheel.

⚠WARNING: Excessive pressure on a cold wheel may cause the wheel to crack.

USING COOLANT TRAY (Fig.6)

The built-in coolant tray allows you to cool overheated workpieces. Simply pull out the tray and fill with the appropriate coolant.

ON/OFF SWITCH (Fig.6)

The Bench Grinder features a front access On/Off switch for convenience and safety.

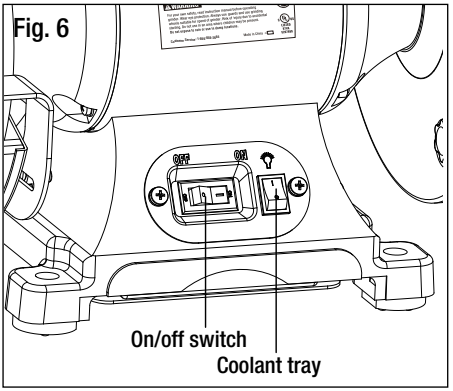


Fig. 6

SHARPENING TWIST DRILL BITS (Fig.7)

Drill bits are best sharpened on a sharpening jig (available at most hardware stores). Begin on one side of the point at the existing angle, twist the bit while maintaining contact with the grinding surface. Sharpen only the tip.

This technique requires considerable practice, so take your time and make a few “dry runs” first with the grinder off. Be sure to maintain the original cutting edge angle as this is important to the efficiency of your bits. One work rest has a V-groove angled to fit most drill bits.

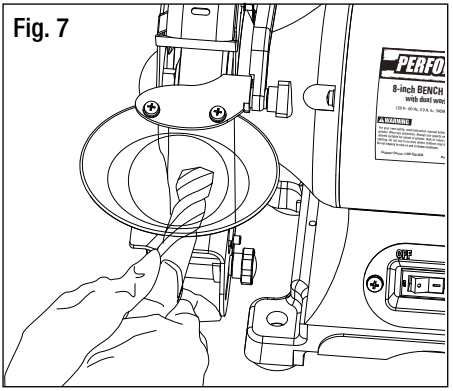


Fig. 7

SHARPENING CHISELS AND SCREWDRIVER BLADES

When sharpening chisels and screwdrivers, the work rest should support the blade at the correct angle against the wheel.

MAINTENANCE

Before each use, inspect the grinder, switch and cord for damage. Check for damaged, missing, or worn parts. Check for loose screws, misalignment or binding of moving parts, or any other conditions that may affect the operation. If abnormal vibration or noise occurs, turn the tool off immediately and have the problem corrected before further use.

Before cleaning or performing any maintenance, the tool should be unplugged from the power supply. Using compressed air may be the most effective cleaning method. Always wear safety goggles when cleaning tools with compressed air.

⚠ **WARNING:** Do not let brake fluids, gasoline, petroleum-based products, penetrating oil, etc., come in contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

⚠ **WARNING:**When servicing use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.

⚠ **WARNING:**Use only accessories that are recommended by the manufacturer for the model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

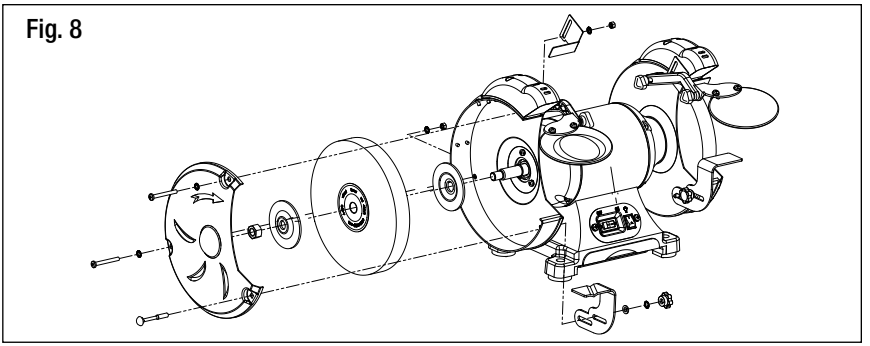
⚠ **WARNING:**Maintain tools with care. Keep cutting tools sharp and clean. Properly maintained tools. With sharp cutting edges are less likely to bind and are easier to control.

⚠ **WARNING:**Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord.

⚠ **WARNING:**To ensure safety and reliability, all repairs should be performed by a qualified service technician.

WHEEL REPLACEMENT (Fig.8)

Fig. 8



If you must replace a grinding wheel, be sure to obtain one with a safe rated speed at least as high as the “no load speed” RPM marked on the data plate of the grinder and which is marked to comply with ANSI B7.1.

To replace the grinding wheel:

1. Turn off and unplug the grinder
2. Remove the wheel cover by loosening the screws.
3. Loosen the wheel nut in a clockwise direction for the left side and a counterclockwise direction for the right side.
4. Remove the outer flange and grinding wheel.
5. To install a new grinding wheel, reverse the above procedure.

NOTE: Be sure the grinding wheel and outer flange are properly seated on the spindle shaft.

WORKLIGHT BULB REPLACEMENT (Fig.9)

NOTE: Follow these instructions to change a burnt out bulb.

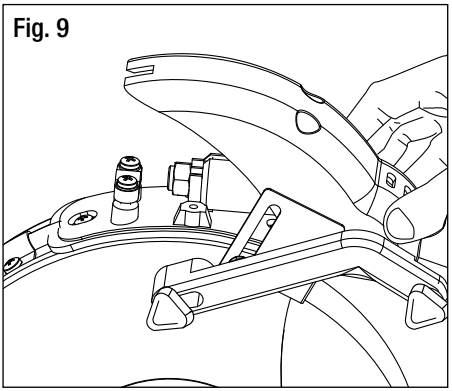


Fig. 9

1. Turn off and unplug the grinder
2. Remove the two Phillips head screws from the top of worklight housing.
3. Remove worklight housing.
4. While gently pushing in bulb, turn bulb to left to release.
5. Place new bulb into bulb receptacle and gently push in while turning to the right until bulb is fully seated.
6. Reinstall the worklight housing using the two Phillips head screws.

NOTE: To avoid the risk of fire, always use a 120v bulb with wattage no greater than 15w.

PERFORMAX® Bench Grinder WARRANTY

30-DAY MONEY BACK GUARANTEE:

This PERFORMAX® brand power tool carries our 30-Day Money Back Guarantee. If you are not completely satisfied with your PERFORMAX® brand power tool for any reason within thirty (30) days from the date of purchase, return the tool with your original receipt to any MENARDS® retail store, and we will provide you a refund – no questions asked.

2-YEAR LIMITED WARRANTY:

This PERFORMAX® brand power tool carries a 2-Year Limited Warranty to the original purchaser. If, during normal use, this PERFORMAX® power tool breaks or fails due to a defect in material or workmanship within two (2) years from the date of original purchase, simply bring this tool with the original sales receipt back to your nearest MENARDS® retail store. At its discretion, PERFORMAX® agrees to have the tool or any defective part(s) repaired or replaced with the same or similar PERFORMAX® product or part free of charge, within the stated warranty period, when returned by the original purchaser with original sales receipt. Not withstanding the foregoing, this limited warranty does not cover any damage that has resulted from abuse or misuse of the Merchandise. This warranty: (1) excludes expendable parts including but not limited to blades, brushes, belts, bits, light bulbs, and/or batteries; (2) shall be void if this tool is used for commercial and/or rental purposes; and (3) does not cover any losses, injuries to persons/property or costs. This warranty does give you specific legal rights and you may have other rights, which vary from state to state. Be careful, tools are dangerous if improperly used or maintained. Seller's employees are not qualified to advise you on the use of this Merchandise. Any oral representation(s) made will not be binding on seller or its employees. The rights under this limited warranty are to the original purchaser of the Merchandise and may not be transferred to any subsequent owner. This limited warranty is in lieu of all warranties, expressed or implied including warranties or merchantability and fitness for a particular purpose. Seller shall not be liable for any special, incidental, or consequential damages. The sole exclusive remedy against the seller will be for the replacement of any defects as provided herein, as long as the seller is willing or able to replace this product or is willing to refund the purchase price as provided above. For insurance purposes, seller is not allowed to demonstrate any of these power tools for you.

For questions / comments, technical assistance or repair parts –

Please Call Toll Free at: 1-866-858-2664 (M-F 8am – 6pm)

SAVE YOUR RECEIPTS. THIS WARRANTY IS VOID WITHOUT THEM.